

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 01/28/2011 has been entered.

Election/Restrictions

2. This application is in condition for allowance except for the presence of claim 3, 5-17 directed to a device non-elected without traverse. Accordingly, claims 3 and 5-17 have been cancelled.

Allowable Subject Matter

3. Claims 1, 2, 4, 18, and 19 are allowed.

The prior art of record neither anticipates nor renders obvious the claimed subject matter of the instant application as a whole either taken alone or in combination. In particular, the prior art of record does not teach "the STI structure at the boundary has a trench that extends from the first region to an end portion of the well with a uniform depth" as recited in claim 1.

Claims 2, 4, 18, and 19 are also allowed as being directly or indirectly dependent on the allowed independent base claim.

With regards to claim 1, Noda teaches having a first and second region with their respective low voltage regions and high voltage regions wherein the first and second region has a conterminous boundary where the second device formation region is defined in a well. However, Noda does NOT teach the STI structure at the boundary having a trench that extends from the first region to an end portion of the well with a uniform depth (the well defined as the second region) (see Fig. 1) and thus, "the STI structure at the boundary has a trench that extends from the first region to an end portion of the well with a uniform depth" as recited in claim 1 is not anticipated in Noda.

In addition, Yasuoka et al. (USP# 6,780,717 B2, hereinafter Yasuoka) teaches how a isolating structure has a uniform depth from a first region to a second region which is defined by a well region 9 (see Fig. 19, for example). However, it is a LOCOS region rather than a STI region and the top surface of the LOCOS region is not on a same plane as the top surface of the semiconductor.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAE LEE whose telephone number is (571)270-1224. The examiner can normally be reached on Monday - Friday, 7:30 a.m. - 5:00 p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Richards can be reached on 571-272-1736. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jae Lee/
Examiner, Art Unit 2895

JML

/N. Drew Richards/
Supervisory Patent Examiner, Art Unit 2895